UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R070XC118NM

Site Name: Salty Bottomland

Precipitation or Climate Zone: 13 to 16 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs in the bottoms of broad major drainageways that receive additional runoff from surrounding uplands on a regular basis. Slopes range from 0 to 5 percent. Direction of slope varies but is not significant. Elevations ranges from 4,600 to 7,000 feet above sea level.

Land Form:

1. Drainageway
2. Valley floor
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	4,600	7,000
Slope (percent)	0	5
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	Occasional	Frequent
Duration	Very brief	Very brief

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

The climate of the area is "semi-arid continental."

The average annual precipitation ranges from 13 to 16 inches. Variations of 5 inches, more or less, are not uncommon. Seventy-five percent of the precipitation falls from April to October. Most of the summer precipitation comes in the form of high-intensity, short-duration thunderstorms.

Distinct seasonal changes and large annual and diurnal temperature changes characterize temperatures. The average annual temperature is about 50 degrees F with extremes of -29 degrees F in the winter and 103 degrees F in the summer.

The average frost-free season is 130 to 160 days. The last killing frost falling in early May and the first killing frost in early October.

Both temperature and precipitation favor warm-season perennial plant growth. However, approximately 40 percent of the precipitation also falls at a time favorable for cool-season plant growth. This allows cool-season species to occupy an important component on this site. The effective precipitation of this site is increased, due to its position on the landscape, by runoff from adjoining sites. This site also serves as a cold air drainageway. These two factors are both favorable to cool-season species and also increase the variety and production of the vegetative community. Strong winds from the west and southwest blow across the area from February to June and rapidly dries the soil during a critical period for plant growth.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	131	173
Freeze-free period (days):	155	187
Mean annual precipitation (inches):	13	16

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.34	.92	15.6	42.1
February	.34	.81	19.9	52.9
March	.23	.98	24.4	59.7
April	.39	.96	31.4	68.9
May	.85	1.61	39.2	77.7
June	.89	1.62	46.9	87.1
July	1.77	2.75	53.1	88.5
August	2.46	3.22	51.9	85.7
September	1.54	2.26	44.3	80.4
October	1.00	1.51	32.8	70.5
November	.57	1.02	22.2	57.5
December	.34	1.16	15.9	49.3

Climate Stations:

					Period		
Station ID	291918	Location	Clines Corners 7SE, NM	From:	12/10/68	To:	11/30/00
Station ID	292096	Location	Corona 11SSW, NM	From:	12/01/77	To:	09/30/92
Station ID	293060	Location	Estancia, NM	From:	01/01/14	To:	12/31/00
Station ID	293649	Location	Gran Quivira Natl. Monument, NM	From:	06/01/38	To:	12/31/00
Station ID	295965	Location	Mountainair, NM	From:	03/01/14	To:	12/31/00
Station ID	299405	Location	Vaughn, NM	From:	01/01/71	To:	12/31/00

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils on this site are generally deep and well drained. They are saline or alkaline. The pH is about 7.9 to 8.4. Surface textures may be loam, clay loam, or silty clay loam. Permeability is slow, and water-holding capacity is moderate to high.

Parent Material Kind: Marine deposits
Parent Material Origin: Gypsum

Surface Texture:

1. Loam
2. Clay loam
3. Silty clay loam

Surface Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group: Clayey
Surface Fragments <=3" (% Cover): N/A
Surface Fragments >3" (% Cover): N/A

Subsurface Fragments <=3" (%Volume): N/A
Subsurface Fragments >=3" (%Volume): N/A

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Slow	Impermeable
Depth (inches):	N/A	>72
Electrical Conductivity (mmhos/cm):	2.00	4.00
Sodium Absorption Ratio:	N/A	N/A
Soil Reaction (1:1 Water):	7.9	8.4
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	7	7
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
The aspect of this site is a shrub/grass mixture characterized by mid-grasses. Forbs are minor component of this site. However, during years of abundant winter and spring moisture, forb production can be important. This site occurs in a position, which receives surface runoff from surrounding uplands on a regular basis. This additional runoff makes the vegetation noticeably taller and denser than adjacent uplands.

Canopy Cover:	
Trees	0 – 1 %
Shrubs and half shrubs	5 – 15 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	30 – 40
Bare ground	30 – 35
Surface cobble and stone	0 – 1
Litter (percent)	30 – 35
Litter (average depth in cm.)	3

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	420	1,085	1,750
Forb	48	124	200
Tree/Shrub/Vine	108	279	450
Lichen			
Moss			
Microbiotic Crusts			
Total	600	1,550	2,500

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	SPAI SPWR2	Alkali Sacaton Giant Sacaton	465 – 620	465 – 620
2	BOGR2 PLJA	Blue Grama Galleta	78 – 155	78 – 155
3	BISSP MUAS MURI	Inland Saltgrass Alkali Muhly Mat Muhly	155 – 233	155 – 233
4	ELEL5	Bottlebrush Squirreltail	78 – 124	78 – 124
5	PASM	Western Wheatgrass	78 – 124	78 – 124
6	PAOB	Vine-mesquite	47 – 78	47 – 78
7	ARIST	Threeawn	47 – 78	47 – 78
8	2GRAM	Other Grasses	47 – 78	47 - 78

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
9	SEFLF	Threadleaf Groundsel	8 – 47	8 – 47
10	SPCO	Scarlet Globemallow	8 – 47	8 – 47
11	AMPS	Western Ragweed	8 – 47	8 – 47
12	2FORBS	Other Forbs	8 – 47	8 - 47

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
13	ATCA2 ATCO	Fourwing Saltbush Shadscale	78 – 155	78 – 155
14	KRLA2	Winterfat	47 – 78	47 – 78
15	2SD	Other Shrubs	47 – 78	47 - 78

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other grasses that could appear on this site include: creeping muhly, ring muhly, red muhly, black grama, sideoats grama, switchgrass, burrograss, cane and silver bluestem, sand dropseed, wolftail, buffalograss, Indian ricegrass, and Canada wildrye.
Other shrubs include: pale wolfberry, fringed sagewort, Apacheplume, ephedra, broom snakeweed, and cacti spp.
Other forbs include: New Mexico thistle, desert holly, annual sunflowers, buffalobur, buffalogourd, whorled milkweed, California bricklebush, and tansymustard.

Plant Growth Curves

Growth Curve ID **4318NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **Mixed shrub/mid-grassland and a minor component of forbs.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	7	10	15	25	25	8	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitat for a wildlife community characterized by pronghorn antelope, black-tailed jackrabbit, badger, Botta's pocket gopher, coyote, desert cottontail, sparrow hawk, western meadowlark, lark bunting, killdeer, bullsnake, and tiger salamander. Artificial ponds on this site provide water for numerous species of wildlife from adjacent sites.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	**Hydrologic Group**
Manzano	D
Moriarty	D

Recreational Uses:

This site has a limited potential for camping, picnicking, or hiking. Hunting is good for small game, antelope, and upland game birds. Trapping for fur-bearing animals is good. During years of abundant moisture, forb production enhances the beauty of this oasis-type site.

Wood Products:

This site has no potential for wood products.

Other Products:

Grazing:

This site is suitable for grazing by all kinds and classes of livestock during all seasons of the year. In cases where this site has been invaded by woody plants, goats can be used as a management tool to help control these plants and to maintain a healthy, balanced plant community. Mismanagement of grazing on this site will cause a decrease of the more palatable grasses and forbs such as vine-mesquite, western wheatgrass, bottlebrush squirreltail, and blue grama. This will also cause an increase in species such as alkali sacaton, giant sacaton, inland saltgrass, and shrubs. Continued deterioration of this site could cause a reduced ground cover and increase erosion that will channel runoff water that would normally spread over the entire site. This further lowers production, and extensive structural erosion control measures may be needed to restore productivity on these severely deteriorated sites. Because of the inherent high productivity of this site, it responds well to a system of grazing that allows use and rest during the growing season. If large enough, this site lends itself well to management as a separate unit.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	1.0 – 1.5
75 – 51	1.4 – 2.6
50 – 26	2.4 – 4.1
25 – 0	4.1+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Galleta	Pleuraphis jamesii	EP	U	U	U	U	U	D	D	D	D	D	U	U
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	P	D	D	D	D	D	D	P
Winterfat	Krascheninnikovia lanata	L/S	D	D	P	P	P	P	P	P	D	D	D	D

Animal Kind: Livestock
Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	D	D	D	D	D	D	U
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	P	D	D	D	D	D	D	P
Winterfat	Krascheninnikovia lanata	L/S	P	P	P	P	P	P	P	P	P	P	P	P
Scarlet Globemallow	Sphaeralcea coccinea	EP	U	U	P	P	P	D	D	D	D	D	D	U

Animal Kind: Wildlife
Animal Type: Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	U	U	U	U	U	U	U
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Scarlet Globemallow	Sphaeralcea coccinea	EP	U	U	P	P	P	D	D	D	D	D	D	U
Winterfat	Krascheninnikovia lanata	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Fourwing Saltbush	Atriplex canescens	L/S	D	D	D	D	D	D	D	D	D	D	D	D

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: **Chavez, De Baca, Guadalupe, Lincoln, San Miguel, Santa Fe, Torrance**

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Pecos-Canadian Plains and Valleys 70 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: Chaves, De Baca, Guadalupe, Lincoln, Sna Miguel, Santa Fe, Torrance.

Characteristic Soils Are:	
Manzano	Moriarty
Other Soils included are:	

Site Description Approval:

Author	**Date**	**Approval**	**Date**
Don Sylvester	11/25/81	Donald H. Fulton	03/03/82

Site Description Revision:

Author	**Date**	**Approval**	**Date**
Elizabeth Wright	06/20/02	George Chavez	12/17/02